

EU Emissions Trading Scheme:

effectiveness, competitiveness and the level playing field must be improved

Outline of Vianney Schyns' contribution to ad hoc group 2 of the High Level Group on Competitiveness, Energy and Environment, meeting 30th March 2006

I. We stand for great challenges in the EU

- To finalise liberalisation of the energy markets
- To become a most energy efficient region
- To perfect EU ETS structurally and reduce GHG emissions
- To energise the Lisbon strategy
- To get the other industrialised regions aboard for post 2012

EU ETS as a central instrument needs:

- **Quantum leap improvements of four key objectives:**
 - Effectiveness – energy efficient technologies and innovation;
 - Competitiveness – free undistorted market, affordable energy prices;
 - Internal Market level playing field – equal allocation to equal installations;
 - Polluter-pays principle – equal allocation to equal installations.
- Effectiveness in the Directive means too stimulation of:
 - Combined heat & power (CHP)
 - Breakthrough technologies – innovations
 - Zero emission plants – clean technologies
- With an effective ETS the serious work only begins, such as:
 - Great potential for energy efficiency – exergy efficiencies most often < 20%;
 - Clean coal still in its infancy e.g. capture technologies need breakthroughs;
 - Process synthesis and process intensification – novel technological concepts, such as high gravity separators – as enablers to reduce emissions;
 - Regulatory challenges within and outside the EU ETS and globally, political partnerships for a well balanced and increased use of biomass.
- An effective EU ETS means therefore above all:
 - A meaningful CO₂-price to make it happen;
 - Simple, robust and predictable allocation rules;to become the attractive blueprint for the world.

II. Present allocation rules show defects and many are major

Don't we all agree that conceptually auctioning is the ideal construct?

And that competitiveness would then suffer beyond the liberalisation deficiency?

And that recycling of auction revenues – or tax revenues – would just shift the problems of present allocation rules?

We can be proud of the establishment of the EU ETS, but not of at least 14 defects¹:

1. Unlucky historical reference periods resulted in under-allocation and therefore law suits. Some were won. Repair underway by update of the reference period, e.g. in the NL.
2. Winning (back) market share is hindered or causes distortions, like a cartel in which winners must pay a penalty to losers producing less. Granting a frozen quantity of allowances decoupled from future production is state aid that affects the Internal Market².
3. When producing less, all allowances remain with the producer, in fact over-allocation. The same happens when a new entrant produces less than forecasted. But, when the

¹ See for example appendix 1 of reference 3(b).

² Ref. 2, pp 17-20: Chapter V.10.

lower production reaches zero – after closure – allowances are not issued anymore in most Member States. But what is exactly closure? A plant can be in cold reserve and produce a small amount annually.

4. Shifting production from an inefficient plant to existing efficient plants in the EU – of one producer or also in tolling agreements – is not stimulated but discouraged.
5. Shifting production outside the territory of the EU ETS is encouraged, thus causing leakage of emissions with often no environmental benefit. Global integrity is at stake.
6. Replacement of a marginal power plant has a negative ROI: the loss of opportunity-cost is higher than the gain in fuel costs³. Efficiency improvement is discouraged. Repair job has been the creation of transfer rules in some Member States, now mooted in others.
7. But transfer rules cause a competitive distortion for a new entrant without an inefficient plant to replace, for example 40% fewer allowances. And transfer rules are limited to one Member State, maybe at odds with the right of establishment in the Internal Market. No repair yet in favour of a free undistorted Internal Market.
8. In the current concept new plants would need to buy all allowances. But under ETS, new plants are required earlier to replace less efficient plants; therefore the repair is new entrants' reserves. Often thresholds apply to qualify, ineffective and hindering growth.
9. In 21 Member States⁴ the new entrants' reserve is finite. And often thresholds are applied to qualify for the reserve. Thus hindering progress – also efficient capacity creep – and creating a barrier to entry or a significant competitive distortion.
10. A conduct has developed to give new entrants a small quantity of allowances, often their projected emissions ("never more than they just need"). This in fact eliminates the incentive for earlier replacement and nullifies the incentive for additional investment in efficient and novel technologies. Two examples where zero incentive was provided for companies I work for: (1) the DSM breakthrough melamine process (70% lower emission than current best technology) and (2) the design of a new SABIC steamcracker.
11. In practice CHP is not promoted in a way that it makes a difference for investment decisions (cf. 10!) & operations – an aim in the Directive – and will be discouraged through skewed allocation, the latest stopgap under consideration for electricity windfall profits.
12. Where benchmarks were used for incumbents, they showed substantial flaws switching from energy efficiency to CO₂-allowances and through maximisation and minimisation rules the incentive of the ETS for affected companies was nullified.
13. Present allocation rules fail for zero emission plants in all Member States⁵, no repair yet.
14. Last but not least, companies fear updating of the historical reference. The repair under discussion is a much longer trading period – for example 25-30 years. But what about new entrants? And closures?

In sum:

- Present allocation rules do not serve their purpose and cause competitive distortions;
- Repairs just shift the problems, increase complexity and are unpredictable;
- None of the defects above would occur under auctioning.

III. Towards a simple, robust and predictable EU ETS: 4 proposals

III.1 Draft NAPs applying present allocation rules to include a reservation

The reservation could be phrased as follows:

"The intended allocation to each installation can be changed in consultation with other Member States and the EU Commission, with the objectives to improve the effectiveness and the predictability of the scheme, to minimise or eliminate electricity windfall profits while stimulating energy efficient technologies including combined heat and power, to avoid competitive distortions between same installations in different Member States and for the handling of small installations, for example with an annual emission below 25 kton CO₂".

³ See chapter V.16 on page 27 of reference 2 for a numerical example.

⁴ The exceptions are Germany, France, Italy and Poland.

⁵ See for a more detailed analysis: Chapter III.3.5 of reference 1, chapter V.15 of reference 2 and chapter 2.3 of reference 3(c).

Member States can consult with each other and the Commission can support, also in the interest of the timing of the Lisbon agenda.

III.2 Benchmarks for major products

Benchmarks are predictable, a target to achieve or improve upon. And no investment will ever be regretted! Benchmarks are easier than often assumed. Key principles are:

- ✓ Output related
- ✓ Same benchmark for incumbents and new entrants
- ✓ Simplicity: keep it simple (KISS = clever)

As soon as one starts to fiddle around with the basics of benchmarking, the ETS engine does not run smoothly anymore. A limited number of benchmarks covers 85% to 90% of the emissions under the EU ETS and will provide a major improvement.

How to get solid benchmark data and what is already available

Product	Data needed	Time needed	Mton CO ₂ /year
Electricity	Verified emissions 2005 and net-production of electricity and heat	4-5 months	1,185
Steel	Data for 5-7 benchmarks	4-5 months	300-350
Cement	Emission per ton clinker and per ton cement	4-5 months	200
Refineries	One benchmark	Few weeks	100-120
Major chemicals	About 20 benchmarks are available. Some additional ones are easily achievable	Available 1-2 months	100
Total	35-40 benchmarks provide 85%-90% coverage		1,900-2,000

One benchmark for electricity is obvious, output related. The future of coal and lignite is essential for the fuel mix. To meet the climate objective zero emission plants must built soonest, but gradually to learn the technology. Perhaps less obvious, a single⁶ benchmark does not put lignite and coal out of business⁷. In the short term operators recoup the cost of allowances and in the longer term zero emission plants will be profitable.

The needed 10 major benchmarks require a concerted action of Member States for 4-5 months. Defects 8-14 are addressed. We then obtain:

- ✓ Equal allocation to equal installations;
- ✓ Correct incentives within the scheme.

Also reserves for new entrants must be sure and predictable. Adopting the elegant German solution EU-wide ensures an effective, free and undistorted Internal Market.

III.3 From a static to a dynamic allocation

Again, this step is easier than often assumed. The essence is that markets are dynamic and that we must opt for an EU ETS that meets market conditions.

The internalisation of the CO₂-price in product prices is taken into account with benchmarks⁸.

The vexed question of electricity windfall profits has not yet been mentioned. It is primarily a problem of competitiveness. It is a transfer of wealth, probably beyond liberalisation defects.

Taxes and partial auctioning create a recycling problem. And what about changing CO₂-prices? Skewed allocation (fewer allowances to electricity producers and more to users)

⁶ There may be a legal issue with the promised quantity of allowances by a transfer rule of already decided investments in new lignite- or coal-fired power plants. These can be seen as a temporary exception or compensation can be considered outside the ETS.

⁷ Ref. 2, Chapter X.9 for a detailed analysis.

⁸ Ref. 2, p.49: Benchmarks include the efficiency of the use of electricity and heat.

works poorly and against CHP. We must not support the cure of symptoms; we must address the inconsistencies with simple, robust and predictable solutions.

Other distortions and unequal burdens stem from the Burden Sharing Agreement, made with best intentions at the time. Many Member States believe to be high efficient or at least better than average. And they believe their burden is heavier than those of others. Let benchmarks do their work.

Benchmarks with ex-post adjustment based on production – Performance Standard Rate – eliminate electricity windfall profits structurally⁹ and cure the remaining major defects, including leakage outside EU (see defects 1-7 of the presented list).

More CHP lowers emissions¹⁰ and provides more supply of electricity to the market. This eases the process towards a liberalised market.

III.4 Maintain and ensure the overall cap

The objectives of the EU ETS are to enhance the economic development and growth – aim of the Lisbon strategy – and to reduce emissions.

To maintain and ensure the overall cap, the new entrants' reserve is turned into a – much smaller – contingency reserve. A reserve of 40 Mton/year is recommended¹¹.

Finally, ensuring the cap is essential to implement dynamic allocation with benchmarks without a change of the Directive on emissions trading¹². The cap is maintained.

Conclusion

1. A simple, robust and predictable EU ETS makes it the blueprint for the world.
2. Dynamic allocation with benchmarks functions as auctioning¹³, without the detrimental effect on competitiveness.
3. The length of a trading period is turned into a non-issue.
4. Effectiveness, competitiveness and the Internal Market level playing field are realised.
5. The overall cap is maintained.

Urmond/Brussels, 29th March 2006.

References of the author: < http://www.dsm.com/en_US/html/sustainability/emission_trading.htm >

1. "Climate change challenges and the search for a sustainable policy", 21 June 2005, presented at the 8th International Conference on Carbon Dioxide Utilisation (ICCDU-VIII) 20-23 June 2005, Oslo, Norway.
2. "Options and consequences for the allocation of allowances to electricity producers", 21 December 2006, presented at the European Chemical Region Network (ECRN) presidium meeting 21-22 December 2005, Maastricht, the Netherlands.
3. Three essays written on request of stakeholders: (a) "Illustration of market distortions under a cap & trade regime", 2 April 2005, (b) "How to reduce emissions under PSR", 1 November 2005 and (c) "Effectiveness and fuel switch under different ETS options for electricity", 24 February 2006.
4. "Towards a simple, robust and predictable EU Emissions Trading Scheme", 21 March 2006, presented to the Dutch Ministry of Economic Affairs.

⁹ Ref.2, p.44: Chapter X and in particular X.4.

¹⁰ Ref. 2, pp 23-26: Chapter V.13: More CHP instead of more lignite- and coal-fired power plants lead to a lower consumption of natural gas under a given total cap. It is better to exploit CHP and to wait for clean coal technologies.

¹¹ Ref. 4, p.15: Chapter 8.2.

¹² Ref. 4, p.16: Chapter 9.3.

¹³ See for a mathematical presentation chapter X.3 on page 43 of reference 2.